## REMARKS/ARGRUMENTS

Claims 1-4, 6-22, 24-33 and 35-41 are pending and stand rejected in the Office Action mailed March 10, 2004.

Claims 1, 13, 20 and 30 have been amended within the subject matter of the application as filed. No new matter has been added.

Claims 3, 21, and 32 have been cancelled without prejudice.

Claims 1, 13, 20, and 30 are rejected under 35 U.S.C. §112, Paragraph 1 because the best mode contemplated by the inventor has not been disclosed.

Claims 1-4, 6-22, 24-33 and 35-41 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,317,495 B1 of Gaikwad, et al. ("Gaikwad").

## CLAIM REJECTIONS

### Rejections under 35 U.S.C. §112

The Examiner has rejected claims 1, 13, 20, and 30 under 35 U.S.C. §112, Paragraph 1 because the best mode contemplated by the inventor has not been disclosed. Applicants disagree. The Examiner has stated in part that:

> Regarding claims 1, 13, 20, 30, the limitation "the transfer function model is simulated without use of direct measurement across the at least one channel" is confused. It is not disclosed in the specification in a way that enables one of ordinary skill in the art to perceive.
> (3/3/04, Office Action, p. 2)

However, the specification of the present application provides numerous embodiments of "the transfer function model...simulated without use of direct measurement across the at least one channel." "In one embodiment, a simulator may create transfer function models of channels using physical configuration information" (Page 19, lines 4-5). Additional embodiments of this feature are provided at least in paragraphs 56 and 57 on pages 19-20. Regardless, claims 1, 13,

20, and 30 have been amended and no longer recite the feature objected to by the Examiner. For the reasons described above the rejection under 35 U.S.C. §112, Paragraph 1 is improper and cannot be sustained.

**Rejections under 35 U.S.C. §102(e)**

The Examiner has rejected claims 1, 13, 20, and 30 under 35 U.S.C. §102(e) as being anticipated by Gaikwad. Applicants submit that claims 1-12 are not anticipated by Gaikwad. In regard to the rejection of claims 1, 13, 20, and 30, the Examiner has stated in part that:

> Gaikwad discloses a method for the determination (prediction) and optimization of a communications system ...regarding claims 3, 21, 32, Gaikwad discloses that at least one transfer function model is created using physical configuration information of the communications system.... (9/9/03, Office Action, p. 3)

Applicants respectfully disagree and submit that claims 1, 13, 20, and 30 are not anticipated by Gaikwad. To anticipate a claim, the reference must teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Claim 1 has been amended to recites the feature formerly found in claim 3 of "creating at least one transfer function model of the at least one of the plurality of channels, wherein the at least one transfer function model is ***simulated using physical configuration information of the communications system***;..." (Emphasis added) This feature is not disclosed by Gaikwad as seen by the following analysis of Gaikwad.

Gaikwad's invention is a system and method for determining transmission characteristics for a communications channel and for transmitting data on the communications channel. (Gaikwad, abstract). One step of Gaikwad's method is to determine the transfer function of the

communication channel. (Gaikwad, col. 16, ll. 45-48) Gaikwad explains that the transfer function is obtained by directly measuring it. (Gaikwad, col. 16, ll. 53-54). Gaikwad provides an example of placing a transmitter on one end of the communications channel, such as CO 12 which is directed to send a signal or a series of signals with predetermined intensities as a function of frequency, with which a receiver at the other end of the channel can measure the attenuation. (Gaikwad, col. 16, ll. 54-61). In addition to real-time direct measurements, Gaikwad states that the channel characteristics can be determined in advance of communication (through direct measurement) and then stored. (Gaikwad, col. 16, ll. 64-67). Thus, Gaikwad can only determine the transfer function by direct measurement.

Additionally, in regard to the rejection of claim 3, the Examiner states "Gaikwad discloses that at least one transfer function model is created using physical configuration information of the communications system. See col. 18 lines 45-65." However, the cited passage of Gaikwad does not describe the use of *physical configuration information* as claimed by applicants, but instead describes the use of direct measurement of the channel characteristics for channels carrying a particular type of service, such as xDSL, ISDN, T1, or spread spectrum. (Gaikwad, col. 18, ll. 45-67) Therefore, since Gaikwad can only determine the transfer function by direct measurement and does not disclose "creating at least one transfer function model..., wherein the at least one transfer function model is ***simulated using physical configuration information of the communications system***;..." as stated in applicants' claim 1. Because Gaikwad does not disclose this feature as taught by claim 1, applicants respectfully submit that claim 1 and claims 2, 4, and 6-12 which depend from claim 1, are not anticipated under 35 U.S.C. §102(e) by Gaikwad.

The Examiner has rejected claims 13-19 under 35 U.S.C. §102(e) as being anticipated by Gaikwad. Applicants submit that claims 13-19 are not anticipated by Gaikwad. In regard to the rejection of claims 13, the Examiner has stated in part that:

> Gaikwad discloses a system for the determination (prediction) and optimization of a communications system comprising: a determination (prediction) module, wherein the determination module determines (predicts) the performance of at least one channel... (9/9/03, Office Action, pp. 3-4)

Applicants submit that claims 13-19 are not anticipated by Gaikwad. Claim 13 recites a prediction module that "creates at least one transfer function model of the at least one channel such that the transfer function model is ***simulated using physical configuration information of the communications system*** ..." (Emphasis added) This feature is not disclosed by Gaikwad for the reasons provided in the analysis above regarding the rejection of claim 1. Because Gaikwad does not disclose this feature as taught by claim 13, applicants respectfully submit that claim 13 and claims 14-19 which depend from claim 13, are not anticipated under 35 U.S.C. §102(e) by Gaikwad.

The Examiner has rejected claims 20-22, and 24-29 under 35 U.S.C. §102(e) as being anticipated by Gaikwad. Applicants submit that claims 20-22 and 24-29 are not anticipated by Gaikwad. In regard to the rejection of claims 20, the Examiner has stated in part that:

> Gaikwad discloses a method for the prediction of the performance of a communications system...regarding claims 3, 21, 32, Gaikwad discloses that at least one transfer function model is created using physical configuration information of the communications system.... (9/9/03, Office Action, p. 4)

Applicants submit that claims 20-22, and 24-29 are not anticipated by Gaikwad. Claim 20 recites "creating at least one transfer function model of the at least one channel, wherein the transfer function model is ***simulated using physical configuration information of the communications system***..." (Emphasis added) This feature is not disclosed by Gaikwad for the reasons provided in the analysis above regarding the rejection of claim 1. Because Gaikwad does not disclose this feature as taught by claim 20, applicants respectfully submit that claim 20 and claims 22, 24-29 which depend from claim 20, are not anticipated under 35 U.S.C. §102(e) by Gaikwad.

The Examiner has rejected claims 30-33, and 35-41 under 35 U.S.C. §102(e) as being anticipated by Gaikwad. Applicants submit that claims 30-33, and 35-41 are not anticipated by Gaikwad. In regard to the rejection of claims 30, the Examiner has stated in part that:

> Gaikwad discloses a method for the prediction of the performance of a communications system...regarding claims 3, 21, 32, Gaikwad discloses that at least one transfer function model is created using physical configuration information of the communications system.... (9/9/03, Office Action, p. 4)

Applicants submit that claims 30-33, and 35-41 are not anticipated by Gaikwad. Claim 30 recites "creating at least one transfer function model of the at least one channel, wherein the transfer function model is ***simulated using physical configuration information of the communications system***;..." (Emphasis added) This feature is not disclosed by Gaikwad for the reasons provided in the analysis above regarding the rejection of claim 1. Because Gaikwad does not disclose this feature as taught by claim 30, applicants respectfully submit that claim 30 and claims 31, 33 and 35-41 which depend from claim 30, are not anticipated under 35 U.S.C. §102(e) by Gaikwad.

For the foregoing reasons, applicant respectfully submits that the applicable objections and rejections have been overcome and that the claims are in condition for allowance.

If there are any additional charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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Sanjeet K. Dutta
Reg. No. 46,145

12400 Wilshire Blvd.
Seventh Floor
Los Angeles, CA 90025
(408) 947-8200